

POSTGRADUATE INSTITUTE OF MEDICINE
UNIVERSITY OF COLOMBO

POSTGRADUATE DIPLOMA IN TUBERCULOSIS & CHEST DISEASES
EXAMINATION – JULY 2015

PAPER I

CASE HISTORIES

Date :- 14th July 2015

Time :- 9.00 a.m. – 11.00 a.m.

Index No.

All **five (05)** questions should be answered.
All questions carry equal marks.

Question 1

A 45 year old, heavy smoker who smoked 12- 15 cigarettes daily for 22 years was presented to the respiratory unit with dry cough and evening pyrexia for 3 weeks duration. He also has experienced upper abdominal pain and shortness of breath for the last two weeks and he had loss of appetite without significant loss of weight. He is a three wheel driver with 2 children aged 3 years and 12 years and consumed a quarter to half bottle of alcohol daily for 18 years.

On examination, he had mild pallor, right sided supraclavicular lymph node enlargement, right sided pleural effusion and distended abdomen with enlarged liver and shifting dullness.

His chest x ray revealed a right sided pleural effusion and ultrasound abdominal examination confirmed the presence of chronic liver cell disease with ascites.

1.1. List three (03) differential diagnoses in this patient.

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1.2. What further four (04) investigations would you like to do to narrow your differential diagnosis?

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Index No.

1.3. What four (04) investigation results favour the diagnosis of tuberculosis in this patient ?

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1.4. What are the challenges, you expect when treating this patient?

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Question 2

A 50 year old man who is infected with HIV is referred to you from the STD clinic to exclude active tuberculosis. He has no history of tuberculosis.

2.1. List out measures you take to exclude active tuberculosis in this patient. (30 marks)

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2.2. After exclusion of active tuberculosis, under what circumstances will you consider treating him with chemoprophylaxis for tuberculosis. (20 marks)

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2.3. What chemoprophylactic treatment regimen will you give to this patient. (20 marks)

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2.4. If he is found to have pulmonary tuberculosis, what pre treatment investigations will you do? (30 marks)

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Index No.

Question 3

A 25 year old non smoker who has been otherwise healthy, presents with sudden onset of right sided chest pain . Chest x ray shows a right sided pneumothorax.

3.1. How will you classify this pneumothorax? (20 marks)

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3.2. What are the parameters you consider in assessing the severity of his Pneumothorax? (20 marks)

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3.3. Name three (03) options in the management of this patient (20 marks)

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3.4. Name four (04) underlying lung diseases which can be complicated by pneumothorax (20 marks)

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Index No.

3.5. Name four (04) causes of non expansion of lung following drainage of a pneumothorax (20 marks)

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Index No.

Question 4

A 45 year old male, who gives a history of 15 pack years of smoking, a quarter bottle of alcohol per day consumption, is admitted to a medical ward with a 3 week history of a cough and fever. Cough is productive of ½ yoghurt cup per day of purulent foul smelling sputum, on occasions streaked with blood. He also gives a history of fever with chills, loss of weight and loss of appetite.

Recently he has noticed increased frequency of micturition and increasing thirst.

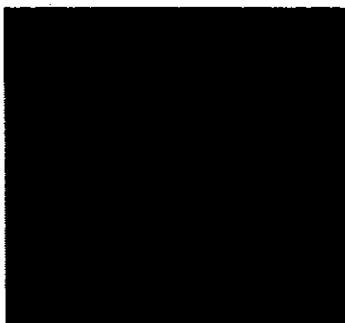
He has been previously well, not on any long term medication and his only hospital admission was 4 weeks ago when he was admitted following a seizure which was attributed to alcohol intoxication. He self-discharged from hospital the following day and did not present himself to follow up clinic.

On examination temperature 100.3 F, poor oral hygiene with betel stained teeth, clubbing, stigmata of chronic alcohol abuse and chronic liver cell disease was also noted, pulse 96/minute, respiratory rate 26/minute, Blood pressure 110/90 mmHg.

On auscultation there were right upper zonal crepitations with bronchial breath sounds, which were amphoric in quality.

Hb	10. g/ L
WBC/ DC total	17,000 N-78 %, L - 10 %
CRP	101
ESR	115 mm/1 st hour
Fasting Blood sugar	204 mg/dL
Liver enzymes elevated SGOT	> 100 IU/L with increased gamma GT

Chest Radiograph is given below :



Index No.

4.1. Describe three (03) visualized radiographic changes (15 marks)

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4.2. List four (04) possible differential diagnoses in order of priority (20 marks)

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4.3. List five (05) investigations you would do. (20 marks)

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4.4. Name three (03) Groups of likely pathogens involved in the diseases process (15 marks)

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Index No.

4.5. Name three (03) single/ combination groups of empiric antibiotic choices and the duration of treatment. (20 marks)

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4.6. Write five (05) possible complications. (10 marks)

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Question 5

A patient who was treated for tuberculosis in the past with category II comes with the 2nd relapse

5.1. What investigations would you order? (40 marks)

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5.2. What treatment would you start? (20 marks)

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He remained sputum positive at the end of third month of treatment and his pretreatment culture came positive for mycobacteria other than tuberculosis (MOTT). Other tests showed a good clinical and radiological improvement.

5.3. What steps would you take now? (20 marks)

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At the end of treatment in spite of clinical improvement he remained sputum positive and repeat cultures also came positive for MOTT.

5.4. What is your final diagnosis? (20 marks)

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POSTGRADUATE DIPLOMA IN TUBERCULOSIS & CHEST DISEASES
EXAMINATION – JULY 2015

PAPER II

DATA INTERPRETATION

Date :- 14th July 2015

Time :- 1.00 p.m. – 2.00 p.m.

Index No.

All five (05) questions should be answered.
All questions carry equal marks.

Index No.

Question 1

1.1. What would be the quarterly reports that a district tuberculosis control officer (DTCO) would have prepared in the first week of July 2010 (30 marks)

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1.2. The chances of a TB suspect becoming sputum positive in a district TB clinic is higher than any other health care institution of the same district. Give five (05) reasons. (20 marks)

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1.3. What is meant by sputum conversion rate (20 marks)

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1.4. What is the expected satisfactory value for sputum conversion? (10 marks)

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Index No.

1.5. Give three (03) possible reasons for this value to be lower. (20 marks)

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Index No.

Question 2

2.1. In a supervisory visit to a peripheral clinic of TB control programme, what two (02) sources would help you to objectively assess case finding activities? (20 marks)

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2.2. What source would reliably tell you the number of new cases put on treatment since your last visit? (10 marks)

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2.3. Mention three (03) sources that would reliably help you to objectively assess the efficacy and reliability of supervised treatment. (35 marks)

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2.4. What parameters would help to evaluate the success of the treatment outcome? (35 marks)

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Question 3

A 24 year old boy presents with a red eye and the eye surgeon has diagnosed it as bilateral uveitis. He was referred to the district tuberculosis control officer (DTCO) for anti tuberculosis treatment.

His mantoux was 12 mm and ESR was 80 mm 1st hour.

The patient did not give a history of respiratory symptoms, he had no constitutional symptoms and his weight was stable.

The patient was seen by an orthopaedic surgeon for lower back pain on several occasions.

3.1. Write down three (03) possible reasons for uveitis. (50 marks)

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3.2. Suggest five (05) other investigations. (50 marks)

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Question 4

A 45 year old patient with poorly controlled diabetes, returned from Abu dabhi on nonstop flight to Colombo. On the third day of arrival he complained to his general practitioner of feeling unwell, difficulty in breathing, chest pain with cough. His BMI was 33. He denied of any other comorbidities.

The following investigations were done

Arterial blood gases

PaO ₂	66 mmHg
Pa CO ₂	30 mmHg
HCO ₃ ,	22 mmols/L
CRP	34
WBC/DC	4300/μL N - 56%, L - 40%

4.1. Write five (05) possible differential diagnoses to this presentation. (20 marks)

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4.2. Write five (05) initial investigations which would help to arrive at a diagnosis. (20 marks)

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Index No.

4.3. Patient deteriorated clinically and was admitted to hospital. His respiratory rate was 40/minute, pulse rate was 114/minute, blood pressure 90/60 mmHg shouting to staff and aggressive.

Write five (05) steps of your management. (20 marks)

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4.4. Write five (05) essential investigations/group of investigations which help the management at this stage. (20 marks)

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4.5. Write specific management of the most likely diagnosis. (20 marks)

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Index No.

Question 5

A 60 year old known rheumatoid arthritis patient on disease modifying agent presented with progressive breathlessness over six month. Her lung functions are given below.

	Predicted value	Observed	% predicted
FVC	L 2.33	1.44	61%
FEV1	L 2.73	1.81	66%
FVC/FEV1	85%	79%	80%
DLCO		5.7 ml/mmHg/minute	60%
PEFR	L/S 5.5	4.8	87%

Associated with mild fever, loss of appetite and loss of weight, she denied any significant past medical illness other than rheumatoid arthritis. She is a mother of five children and her monthly income was Rs. 50.000/=.

5.1. Write five (05) possible causes for this presentation. (25 marks)

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5.2. Write four (04) essential investigation/s which help to arrive at a diagnosis. (25 marks)

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Index No.

5.3. Write five (05) long term complications of this clinical state. (25 marks)

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5.4. Write principles of management of one of the probable diagnoses. (25 marks)

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POSTGRADUATE DIPLOMA IN TUBERCULOSIS & CHEST DISEASES
EXAMINATION – JULY 2015

OSCE

Date :- 15th July 2015

Time :- 10.00 a.m. – 12.00 noon

Index No.

Index No.

Question 1

1.1. Name this equipment. (20 marks)

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1.2. What is the use of this equipment ? (30 marks)

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1.3. Name five (05) activities that should be avoided prior to this test. (50 marks)

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Index No.

Question 2

2.1. Identify A and B (50 marks)

A

B

2.2. Write the dose and technique of one of these. (50 marks)

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Question 3

3.1. Identify this device. (40 marks)

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3.2. What is the use of this device ? (30 marks)

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3.3. What are the clinical indications of this device ? (30 marks)

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Index No.

Question 4

20 year old boy presented with cough for three weeks duration.

4.1. Recognize the abnormality in this x ray. (20 marks)

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4.2. Write three (03) possible causes for this abnormality. (30 marks)

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4.3. Write three (03) diagnostic investigations to arrive at a final diagnosis. (30 marks)

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4.4. Write standard treatment for one (01) of your differential diagnosis. (20 marks)

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Index No.

Question 5

A 60 year old male with a 20 pack year history of smoking has the following spirometric parameters.

FEV ₁	180 ml
FVC	300 ml

5.1. Name the respiratory abnormality. (25 marks)

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20 minutes after inhalation of 400 mcg of salbutamol the parameters were as follows : (25 marks)

FEV ₁	240 ml
FVC	330 ml

5.2. What is the diagnosis ?

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5.3. List two (02) non therapeutic measures in the management of this patient. (20 marks)

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5.4. List the drugs to be used this patient in order of priority. (30 marks)

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Index No.

Question 6

A 70 year old man presented with progressive of dyspnoea of two years duration.

6.1. Describe the chest x ray abnormality. (30 marks)

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6.2. List two (02) possible diagnoses. (20 marks)

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6.3. List three (03) investigations you would do to arrive at a diagnosis. (30 marks)

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6.4. Write treatment options for one (01) of the diagnosis. (20 marks)

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Index No.

Question 7

A 60 year old smoker presented with sudden onset of chest pain.

7.1. List two (02) abnormalities seen in the chest x ray (30 marks)

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7.2. Comment on the mediastinum. (20 marks)

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7.3. Write two (02) reasons for your comments. (20 marks)

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7.4. Write two (02) therapeutic options in the management of this patient. (30 marks)

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Question 8

This 20 year old man has a smear positive pulmonary tuberculosis. He is confirmed to have HIV infection.

8.1. Discuss about his illness. (100 marks)

Question 9

List five (05) preventive measures of tuberculosis transmission. (20 x 5 = 100)

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Index No.

Question 10

10.1. List three (03) abnormalities seen in this chest x ray. (30 marks)

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10.2. List three (03) possible causes for this abnormality. (30 marks)

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10.3. Write four (04) investigations to arrive at the final diagnosis. (40 marks)

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